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     FILE 'CAPLUS' ENTERED AT 14:25:53 ON 09 DEC 2005
L45             4 S L44

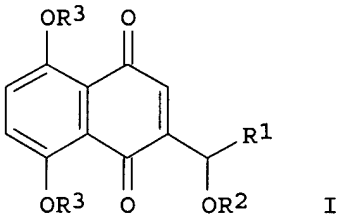

L45  ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         1995:812765  CAPLUS
DOCUMENT NUMBER:          123:227829
TITLE:                    Preparation of shikonin analogs as anticancer agents
```

10/758,794

INVENTOR(S): Ahn, Byung Zun; Baik, Kyong Up
PATENT ASSIGNEE(S): S. Korea
SOURCE: PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9502572	A1	19950126	WO 1994-KR91		19940713
W: AM, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LT, LV, MD, MG, MN, NO, NZ, PL, PT, RO, RU, SI, SK, TJ, TT, UA, US, UZ, VN					
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
CA 2144518	AA	19950126	CA 1994-2144518		19940713
AU 9472397	A1	19950213	AU 1994-72397		19940713
EP 662073	A1	19950712	EP 1994-921858		19940713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
CN 1112363	A	19951122	CN 1994-190494		19940713
JP 08501806	T2	19960227	JP 1994-504478		19940713
US 5696276	A	19971209	US 1995-403716		19950314
PRIORITY APPLN. INFO.:			KR 1993-13227	A	19930714
			WO 1994-KR91	W	19940713

OTHER SOURCE(S): MARPAT 123:227829
GI



I

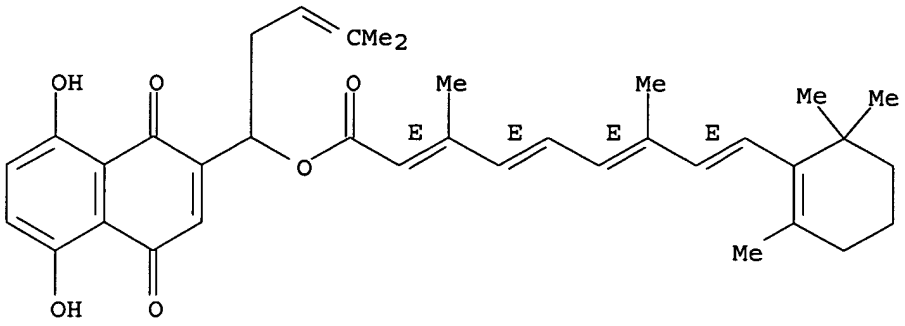
AB Title compds. [I; R1 = alk(en)yl; R2 = H, alkyl, alkanoyl, aroyl, etc.; R3 = H, alkyl] were prepared Thus, I (R1 = CH2CH2CMe2, R3 = H)(II; R2 = H) was O-acylated to give II (R2 = Ac) which gave survival of S-180 sarcoma cell inoculated mice 188% that of controls at 5μmol/kg/day i.p.

IT **168393-27-9P 168393-28-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of shikonin analogs as anticancer agents)

RN 168393-27-9 CAPLUS

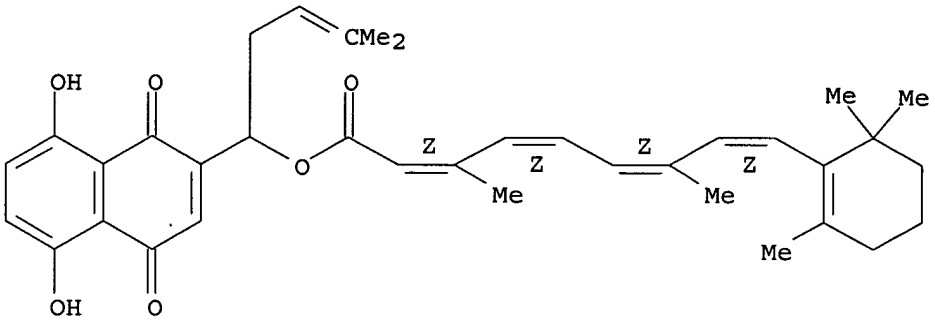
CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 168393-28-0 CAPLUS
CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, (all-cis)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L45 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:413297 CAPLUS
DOCUMENT NUMBER: 122:239424
TITLE: Acylshikonin Analogs: Synthesis and Inhibition of DNA Topoisomerase-I
AUTHOR(S): Ahn, Byung-Zun; Baik, Kyong-Up; Kweon, Gi-Ryang; Lim, Kyu; Hwang, Byung-Doo
CORPORATE SOURCE: Colleges of Pharmacy and Medicine, Chungnam National University, Taejon, 305-764, S. Korea
SOURCE: Journal of Medicinal Chemistry (1995), 38(6), 1044-7
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

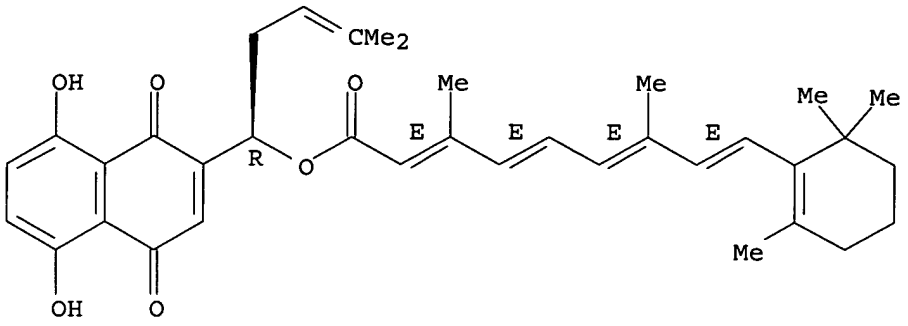
AB Selective acylation at 1'-OH of shikonin in the presence of dicyclohexylcarbodiimide and 4-(dimethylamino)pyridine gave rise to a good yield of acylshikonin derivs. which were evaluated for inhibitory effect on topoisomerase-I activity. In general, analogs with an acyl group of shorter chain lengths (C2-C6) exerted a stronger inhibitory action than those with longer chain lengths (C7-C20). While halogen substitution at C-2 of the acetyl moiety failed to increase the inhibitory potency, the placement of double bonds in the acyl group (C5-C7) augmented the potency remarkably. Of the 32 derivs. evaluated, 15 compds. exhibited a higher inhibitory effect than shikonin. Noteworthy, the inhibitory potency of acetylshikonin, propanoylshikonin, and 4-pentenoylshikonin was approx. 4-fold greater than that of camptothecin. All these data suggest that the size of the acyl moiety is important for the enhancement of potency, and the presence of olefinic double bonds is also beneficial.

IT **162283-95-6P 162425-95-8P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and DNA topoisomerase-I inhibiting activity of acylshikonins)

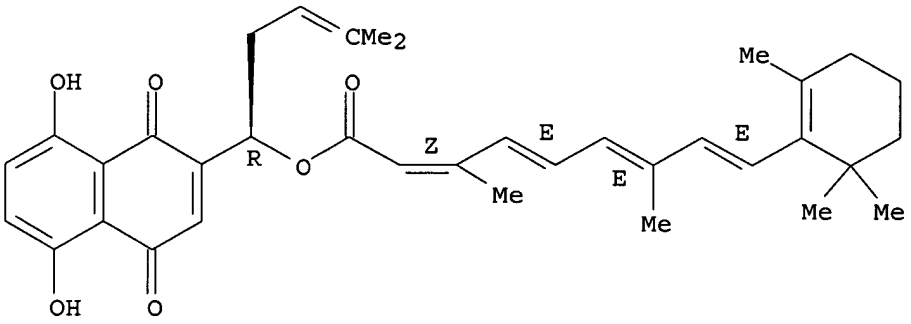
RN 162283-95-6 CAPLUS
CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, [15(R)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 162425-95-8 CAPLUS
CN Retinoic acid, 1-(1,4-dihydro-5,8-dihydroxy-1,4-dioxo-2-naphthalenyl)-4-methyl-3-pentenyl ester, [13-cis,15(R)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L45 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:631159 CAPLUS
DOCUMENT NUMBER: 121:231159
TITLE: Preparation of 1-acyloxyvitamin D derivatives as pharmaceuticals
INVENTOR(S): Tachibana, Yoji
PATENT ASSIGNEE(S): Nisshin Flour Milling Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06009547	A2	19940118	JP 1992-169049	19920626
JP 3182215	B2	20010703		

PRIORITY APPLN. INFO.: JP 1992-169049 19920626
OTHER SOURCE(S): MARPAT 121:231159
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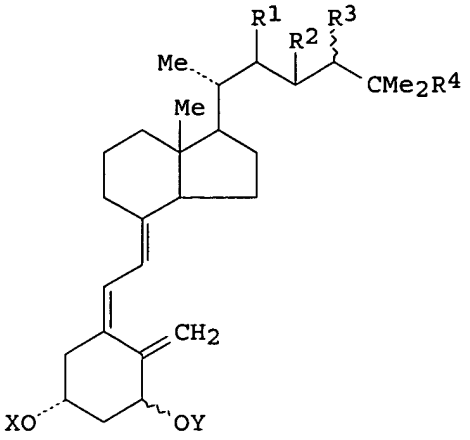


I

AB The title compds. I (X = H, vitamin A acid residue; Y = vitamin A acid residue; R1, R2 = H; R1R2 may form C-C bond; R3 = H, C1-4 alkyl, OX; R4 = H, OH), useful for treatment of osteoporosis, skin ulcer, and cancer (no data), are prepared Treatment of 300 mg all-trans-vitamin A acid with trifluoroacetic anhydride in iso-Pr ether and THF solution of 400 mg I (R1-R4 = H, X = tert-butyldimethylsilyl, OY = α-OH) at room temperature for 2 h gave 440 mg the corresponding ester, which was treated with Bu4NF in THF at room temperature for 3 h to afford 230 mg I (R1-R4 = X = H, OY = α-retinoyloxy).

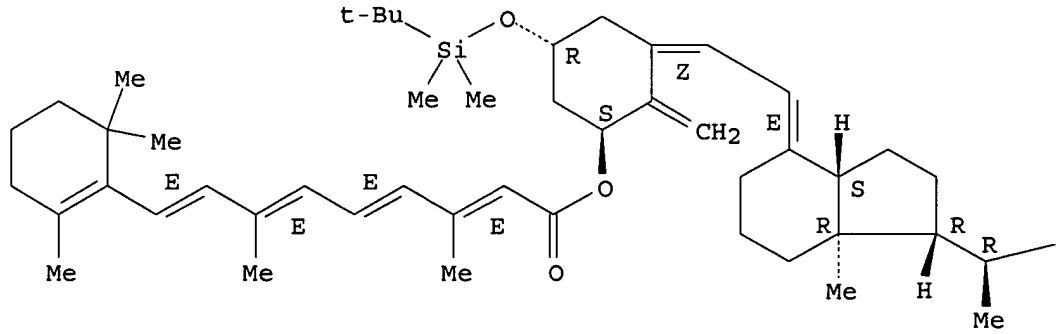
IT **157356-13-3P 157356-14-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of)

RN 157356-13-3 CAPLUS

CN Retinoic acid, (1α,3β,5Z,7E,24R)-3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-9,10-secocholesta-5,7,10(19)-triene-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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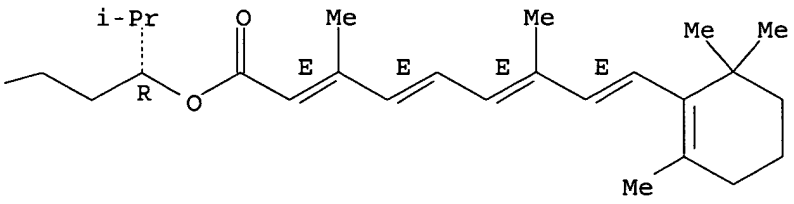
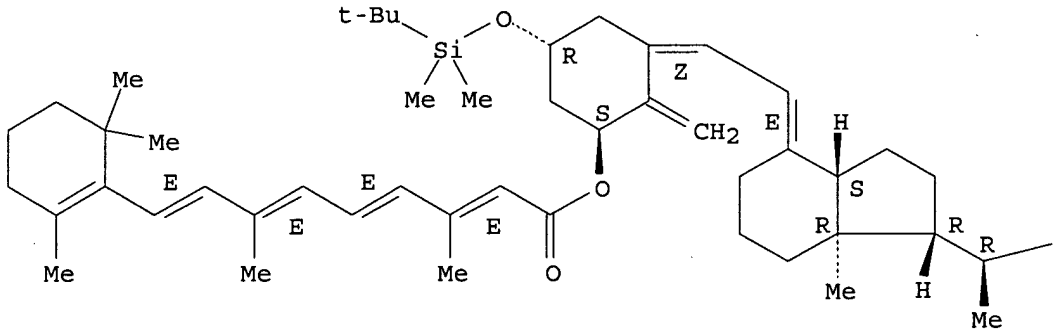


RN 157356-14-4 CAPLUS
CN Retinoic acid, (1α,3β,5Z,7E,24S)-3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-9,10-secocholesta-5,7,10(19)-triene-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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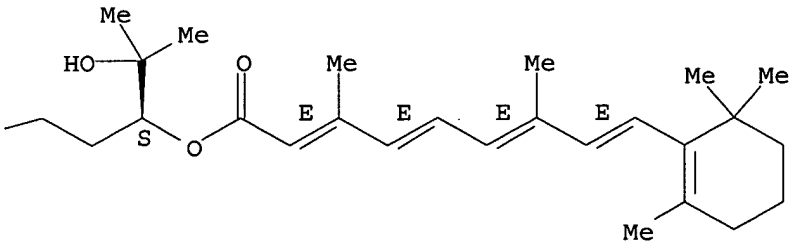
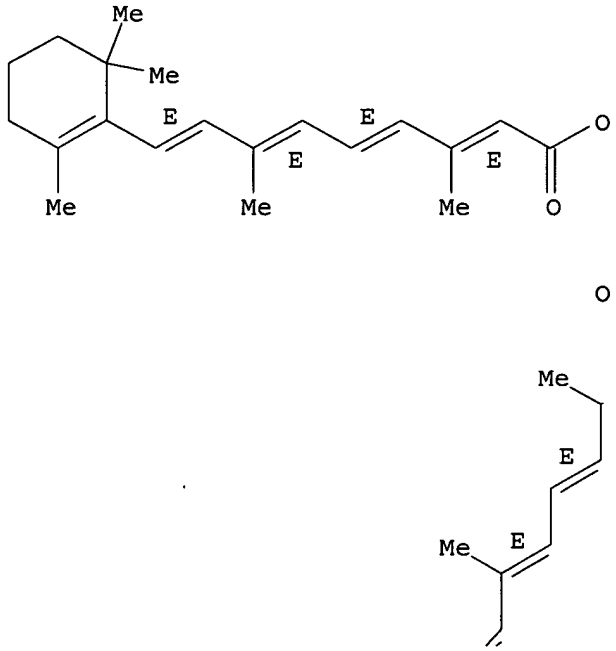


IT **157355-89-0P 157355-91-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as pharmaceutical)

RN 157355-89-0 CAPLUS
CN Retinoic acid, (1α,3β,5Z,7E,24R)-9,10-secocholesta-5,7,10(19)-triene-1,3,24-triyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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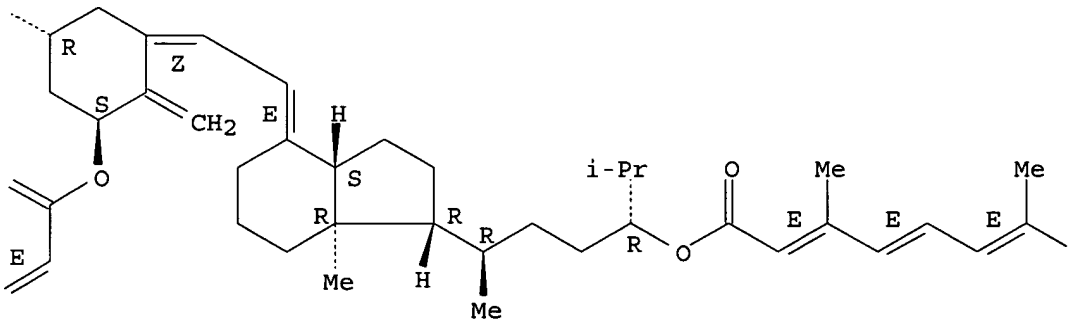

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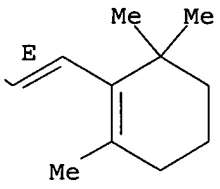

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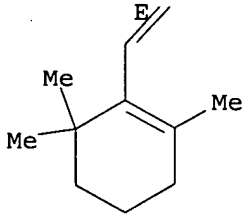
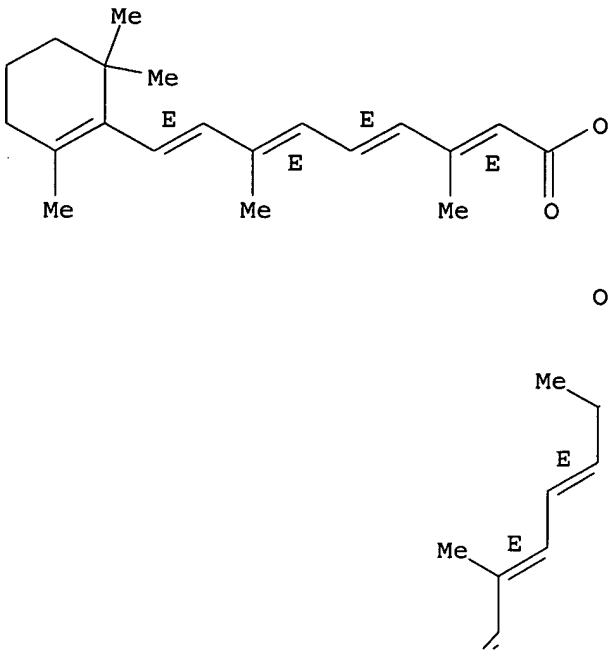


RN 157355-91-4 CAPLUS
CN Retinoic acid, (1α,3β,5Z,7E,24S)-9,10-secocholesta-5,7,10(19)-triene-1,3,24-triyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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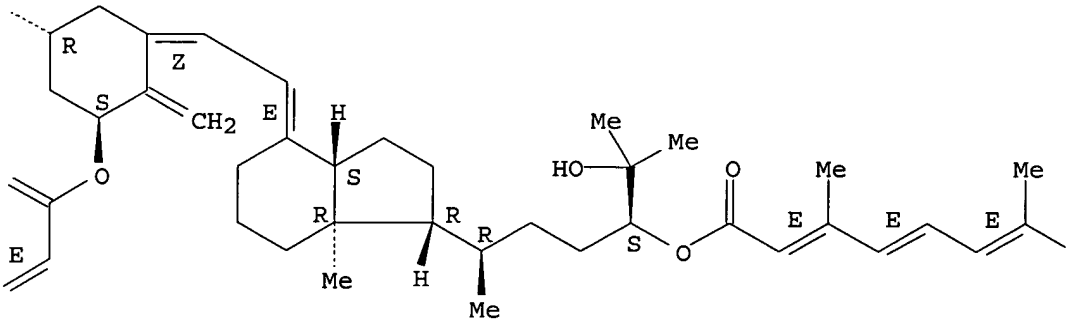

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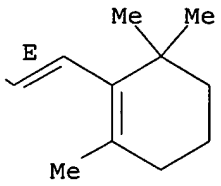

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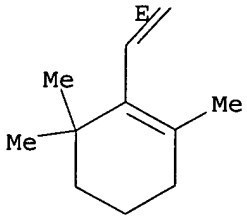
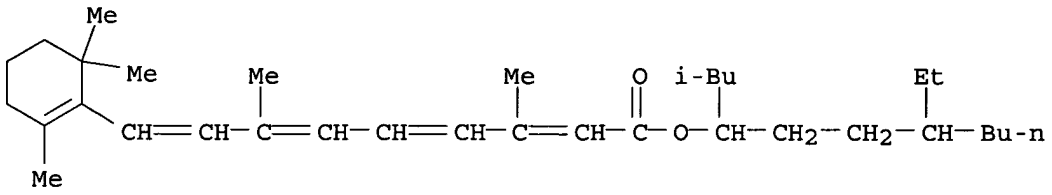


L45 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:593554 CAPLUS
DOCUMENT NUMBER: 83:193554
TITLE: Vitamin A acid esters
INVENTOR(S): Koyama, Hiroyasu; Kato, Teruhiko; Komatsu, Yasuhiro; Kawase, Shigeo
PATENT ASSIGNEE(S): Nisshin Flour Milling Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50076047	A2	19750621	JP 1973-124476	19731107
JP 58027266	B4	19830608		

PRIORITY APPLN. INFO.: JP 1973-124476 A 19731107
GI For diagram(s), see printed CA Issue.
AB Vitamin A acid (I) esters II (R = C5-20 saturated or unsatd. hydrocarbon residue) were prepared by treating I or its functional derivs. with alcs. ROH. II were effective against AcOH-induced peptic ulcer and skin wound in rats with less i.p. toxicity than I. Thus, a mixture of 3.9 g geraniol, 4.1 g dicyclohexylcarbodiimide, and 0.05 g CuCl was stirred at 80° for 0.5 hr under N and refluxed with 6 g I in 12 ml C6H6 at 100-10° for 5 hr to give II (R = geranyl). Also prepared were II where R = sec-pentyl, pentyl, 4-ethyl-1-isobutyloctyl, farnesyl, and phytyl.

IT **57232-28-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 57232-28-7 CAPLUS
CN Retinoic acid, 4-ethyl-1-(2-methylpropyl)octyl ester (9CI) (CA INDEX NAME)



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L9 STRUCTURE UPLOADED
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L17 QUE L16 AND L14 AND L15
L18 3 S L17 FUL

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L22 STRUCTURE UPLOADED
L23 QUE L22 AND L20 AND L21
L24 1 S L23 FUL

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